



170335

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY POLLUTION REPORT

I. HEADING

DATE: April 10, 2000
SUBJECT: Gurnee Mercury Spill
FROM: Mike Harris, OSC, U.S. EPA, Region 5, EERB, RS-2

TO:

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POLREP No.: POLREP #1 Initial

II. BACKGROUND

Site: Gurnee Mercury Spill	Site No.: B5M4
Task Order No.: 16	Response Authority: CERCLA
CERCLIS No.: ILP200000272	NPL Status: Not on the NPL
State Notification: IEPA Notified	Action Memorandum Status: Pending
Incident Category: Emergency Response	Starting Date: March 30, 2000
Reporting Date: March 30 through April 7, 2000	Completion Date: Not Available

III. SITE DESCRIPTION

On March 30, 2000, the Gurnee Police Department (GPD) and Gurnee Fire Department (GFD) responded to a call from a resident minor in the 600 block of Belle Plaine that there may be mercury in the creek alongside his home. GPD collected his statement which related that he had seen several younger children playing with it approximately two weeks earlier. He stated that he told the children not to play with the mercury because it could make them sick. The minor phoned the GFD when he witnessed several teenagers playing with it on March 30. He also stated that one week prior he collected some of the mercury and brought it into his house at Belle Plaine to play with it, potentially spilling it in his home. He then gave a quantity of the mercury to a friend. GFD and GPD called the Lake County Public Health Department (LCPHD) who said they would aid in the search for the second minor and with disposal of any recovered mercury. Upon arriving at the scene and witnessing the mercury along the creek bank and in the creek, GFD called the Illinois Environmental Protection Agency (Illinois EPA) for assistance, who referred the site to the United States Environmental Protection Agency (U.S. EPA). U.S. EPA, along with their Emergency and Rapid Response Services (ERRS) contractor, Superior Special Services, Inc. (SSS), and the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc., responded to the site at approximately 1700 hours on March 30.

IV. RESPONSE INFORMATION

A. Status of Actions

On March 30, 2000, U.S. EPA, START, and ERRS responded to the mercury spill. ERRS began picking up the mercury with syringes and vacuuming up the free mercury with a mercury vacuum. U.S. EPA also

learned of a third minor who was potentially in possession of mercury at [redacted] Magnolia, approximately 2 blocks from the Belle Plaine residence. START was tasked to perform air sampling at the residences at [redacted] Belle Plaine and [redacted] Magnolia. After receiving verbal approval from the renters at [redacted] Belle Plaine, START screened the house in general area with the Jerome mercury vapor analyzer (MVA). Peak readings at the house were 0.180 milligrams per cubic meter (mg/m^3) which exceeded the Agency for Toxic Substances and Disease Registry's (ATSDR) residential exposure standard of 0.0003 mg/m^3 . U.S. EPA and GFD recommended the residents vacate the residence until a more accurate test could be performed. U.S. EPA and START used the MVA at [redacted] Magnolia and got a peak reading of 0.030 mg/m^3 in the boy's room in the basement. The third minor did not want to alert his parents to the problem so the boy's parents could not be contacted at this time. He also stated that he threw his quantity of mercury into the creek, where the mercury was initially found, that also ran by his house. U.S. EPA, START, and GFD also got in contact with the second minor and retrieved the mercury from him at [redacted] Grand Oaks Court. START screened his home with the MVA but did not get any readings in the home. ERRS finished collecting all visible mercury from the creek bank and in the creek early in the morning on March 31. They disposed of approximately 100 pounds of pure mercury and mercury contaminated soil and personal protective equipment.

On March 31, START and U.S. EPA returned to site to collect confirmation samples from the creek and to set air sampling pumps in the house at [redacted] Belle Plaine. The boy who lived at [redacted] Magnolia refused to comply with U.S. EPA wishes to alert his parents of the situation at his home so access had not been granted to that home as of this date. After setting the air sampling pumps in [redacted] Belle Plaine, START went to the creek to collect confirmation samples from the creek. Upon walking to the creek, START noticed shiny metal droplets on the creek bank that resembled mercury. START alerted U.S. EPA who mobilized ERRS back to site. GFD recommended that the work be performed on April 1 in the morning because it would be approaching evening by the time ERRS arrived at site and it would be just as difficult to collect all the mercury from the creek bank as the previous night and morning. U.S. EPA called ERRS to inform them to mobilize April 1 in the morning. START and LCPHD walked the creek to locate the quantity of mercury that he allegedly threw into the creek. LCPHD representative Ralph Pergams noticed an unusual box alongside the house at [redacted] Magnolia and opened and discovered the mercury. START secured the box and placed it in the garage at [redacted] Belle Plaine. The air samples were collected and shipped to a lab for analysis.

On Saturday, April 1, 2000, ERRS mobilized to site to re-clean the creek bank. START and the foreman for SSS conferred with U.S. EPA and recommended the borrowing of a jackhammer to break up some of the concrete along the creek's culvert to determine if the mercury had migrated below the concrete's surface. Gurnee Public Works approved the demolition of the concrete and lent ERRS a jackhammer to break open the concrete. After all utilities were marked, ERRS began breaking concrete alongside of the culvert. ERRS stated that the more rock and soil they moved the more mercury they found, the foreman recommended that heavy equipment be brought in to remove the soil in bulk on Sunday, April 2. ERRS ceased operation for the day and secured the site. Analytical results from the air sampling at the residence demonstrated mercury vapor levels ranging from 0.00127 mg/m^3 to 0.0676 mg/m^3 . The owner of the house at [redacted] Magnolia granted access to U.S. EPA to collect air samples on Sunday, April 2.

On Sunday, April 2, 2000, a backhoe was mobilized to site to aid in the excavation of the concrete and soil alongside the culvert. START collected air samples at the residence at [redacted] Magnolia. Approximately 20 cubic yards of mercury contaminated soil and concrete was excavated from the creek bank. START collected samples from the creek bank and in the creek itself for confirmation. The air and soil samples were shipped to a lab for analysis. Tear-out of the mercury contaminated items at [redacted] Belle Plaine was scheduled for Monday, April 3.

On Monday, April 3, 2000, ERRS mobilized to the site to begin tear-out of the house at [redacted] Belle Plaine. START mobilized additional personnel to aid in the video documentation of the house's contents that were

contaminated that needed to be disposed. Approximately 15 cubic yards of mercury contaminated items, carpeting, clothing and shoes, personal protective equipment, and personal items were removed.

On Tuesday, April 4, 2000, START collected confirmation air samples from the residence at ... Belle Plaine and shipped them to a lab for analysis. Analytical results were returned from sampling of the house at ... Magnolia, the results ranged from 0.00247 mg/m³ to 0.0246 mg/m³. Decontamination of the house will be scheduled for Friday, April 7.

On Thursday, April 6, START began screening items at the ... Magnolia residence for mercury contamination, prior to decontamination of the house. Due to low readings in the upper floors of the residence the decontamination will be focused in the basement area.

On Friday, April 7, ERRS mobilized to site to decontaminate the basement of the residence at ... Magnolia. START collected confirmation samples at the residence. U.S. EPA toxicologists requested that samples be recollected at the ... Belle Plaine residence due to a detection limit that was too high. Both sets of samples were shipped to a lab for analysis.

B. Next Steps

1. Arrange for restoration of ... Belle Plaine.
2. Arrange for restoration of ... Magnolia.
3. Replace removed concrete from around culvert.

C. Key Issues

The potential exists for a fourth minor to be in possession of mercury based on interviews with the other youths. The identity of the youth was not revealed by the other minors. All further actions at the Gurnee Mercury Spill (i.e. new houses), require a formal referral from LCPHD for U.S. EPA to act.

V. COST INFORMATION

As of 4/10/2000

Group	Celling Cost	Cost to Date	Remaining
ERRS	Unknown		
START	Unknown		
U.S. EPA	Unknown		
TOTAL			

VI. DISPOSAL INFORMATION

Disposition of Wastes Gurnee Mercury Spill Gurnee, Lake County, Illinois			
Wastestream	Quantity	Date	Disposal Facility
Waste Mercury, 8, UN2809, PGIII	100 pounds	3/31/00	Superior Special Services, Inc. 1275 Mineral Springs Dr. Port Washington, WI 53074
Waste Toxic Solid, inorganic, n.o.s. (mercury), 6.1, UN3288, PG III	10 yd ³	4/4/00	Onyx Environmental W124 N9451 Boundary Rd. Menomonee Falls, WI 53051
Waste Toxic Solid, inorganic, n.o.s. (mercury), 6.1, UN3288, PG III	15 yd ³	4/4/00	Superior Special Services, Inc. 1275 Mineral Springs Dr. Port Washington, WI 53074